

## CLAIMS

### WHAT IS CLAIMED IS:

1. A method for clarifying an optical/digital image of an object to perform a procedure on an object, comprising the steps of:

- 5 (a) applying to said object a light beam formed of incoherent light and reflecting said applied incoherent light beam from said object to provide a reflected light beam;
- (b) providing electrical signals representative of said reflected light beam;
- (c) determining an image quality metric in accordance with said electrical signals;
- 10 (d) determining an image in accordance with said image quality metric; and
- (e) performing said procedure in accordance with said image quality metric.

2. The method for clarifying an optical/digital image of an object Claim 1, comprising the further steps of:

- 15 (a) applying to said object a further light beam and reflecting said further light beam from said object to provide a further reflected light beam;
- (b) providing a further image in accordance with said further reflected light beam; and
- (c) superimposing said image and said further image to provide a composite image.

20 3. The method for clarifying an optical/digital image of an object of Claim 2, comprising the further step of performing said procedure in accordance with said composite image.

4. The method for clarifying an optical/digital image of an object of Claim 3, comprising the further step of applying said image and said further image to a superposition screen in order to provide said composite image.

25 5. The method for clarifying an optical/digital image of an object of Claim 4, comprising the further step of optimizing at least one of said image and said further image to provide an optimized image.

30 6. The method for clarifying an optical/digital image of an object of Claim 5, wherein said object has a selected feature comprising the further step of optimizing said at least one of said image and said further image to emphasize a visualization of said selected feature.

7. The method for clarifying an optical/digital image of an object of Claim 5,

wherein said object has a selected feature comprising the further step of optimizing said at least one of said image and said further image to de-emphasize a visualization of said selected feature.

8. The method for clarifying an optical/digital image of an object of Claim 7,  
5 wherein said object is an eye comprising the further step of de-emphasizing a visualization of blood.

9. The method for clarifying an optical/digital image of an object of Claim 6,  
comprising the further step of adjusting an amount of emphasizing of said visualization during  
a performance of said procedure.

10. The method for clarifying an optical/digital image of an object of Claim 9,  
comprising the further step of adjusting an amount of emphasizing of said selected feature by  
adjusting the relative contributions of said image and said further image to said composite  
image.

11. The method for clarifying optical/digital images of an object of Claim 5,  
15 comprising the further steps of:

- (a) applying a perturbation to said image quality metric to provide a perturbed image quality metric; and
- (b) determining whether a predetermined image quality is obtained in accordance with said perturbed image quality metric.

20 12. The method for clarifying an optical/digital image of an object of Claim 3,  
wherein said object is an eye and said procedure is an ophthalmological procedure.

13. The method for clarifying an optical/digital image of an object of Claim 12,  
wherein said ophthalmological procedure comprises photocoagulation for performing said  
photocoagulation within an eye.

25 14. The method for clarifying an optical/digital image of an object of Claim 12,  
wherein said ophthalmological procedure comprises an optical biopsy for performing said  
optical biopsy within an eye.

15. The method for clarifying an optical/digital image of an object of Claim 12,  
wherein said ophthalmological procedure comprises a measurement for performing said  
30 measurement within an eye.

16. The method for clarifying an optical/digital image of an object of Claim 12,  
comprising the further step of determining a location within an eye.

17. The method for clarifying an optical/digital image of an object of Claim 1,

wherein said object is an eye having an iris, comprising the further steps of:

- (a) providing an iris biometric image of said eye in accordance with said image quality metric; and
- (b) determining a location within said eye in accordance with said iris biometric image.

5           18. The method for clarifying an optical/digital image of an object of Claim 17, comprising the further step of determining a location within said iris in accordance with said iris biometric image.

10          19. The method for clarifying an optical/digital image of an object of Claim 17, comprising the further step of determining an orientation of said iris in accordance with said iris biometric image.

15          20. The method for clarifying an optical/digital image of an object of Claim 17, comprising the further step of identifying said iris in accordance with said iris biometric image.

20          21. The method for clarifying an optical/digital image of an object of Claim 20, comprising the further step of identifying an iris of a patient within an ophthalmological procedure in accordance with said iris biometric image.

25          22. The method for clarifying an optical/digital image of an object of Claim 20, comprising the further step of identifying an iris of a person within a security verification in accordance with said iris biometric image.

20          23. The method for clarifying an optical/digital image of an object of Claim 1, wherein said object is an article of manufacture comprising the further step of identifying said article of manufacture in accordance with said iris biometric image.

25          24. The method for clarifying an optical/digital image of an object of Claim 23, comprising the further step of controlling a manufacturing process in accordance with said identifying of said article of manufacture.